

## **An Overview of Theses Canada and ETD Initiatives at Library and Archives Canada**

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### **ABSTRACT**

A centrally coordinated program for theses was established at the National Library of Canada (NLC, now part of Library and Archives Canada) in 1965. In the intervening years the program has undergone many changes. The advent of electronic theses and dissertations (ETDs) in the 1990s and the “Contentville” controversy in 2000 led the NLC to hold a national consultation with its university stakeholders to determine the direction of the national theses program with respect to electronic theses. The consultation presented the opportunity to re-examine Canada’s national theses program, its goals and how best to achieve them.

One outcome of the consultation was the establishment of the Canadian Theses Service Advisory Committee with a mandate to focus on the transition from print to electronic theses both at NLC and at Canadian universities. Based on consultation with the Committee Theses Canada has undertaken to develop a national electronic theses program based on the principle of open access.

This paper gives an overview of the history of the Theses Canada program and discusses various initiatives Library and Archives Canada (LAC) has undertaken to facilitate the development of its ETD program, such as the development of the Theses Canada Portal and LAC’s program to harvest metadata and ETDs from universities.

**Keywords:** Theses Canada Portal, Canadian ETD initiatives

### **1. HISTORY OF THE NATIONAL THESIS PROGRAM IN CANADA**

The centrally coordinated national theses program at Library and Archives Canada (LAC) was established in 1965 at the National Library of Canada (NLC) at the request of various deans of Canadian graduate schools. The program had two objectives:

- to facilitate access to theses by identifying what was available and by providing copies via ILL or sale; and,
- to preserve theses by microfilming paper copies and storing preservation masters according to archival standards.

For thirty seven years the program continued to fulfill its mandate in much the same way. The only significant changes to program delivery came first in 1990 when NLC outsourced the reproduction and sales aspects of the program and then in 1998 when, under the terms of a new contract, UMI Dissertations Publishing (UMI) began to digitize the theses as well as reproducing them on microfiche. Since the program began theses authors have signed a non-exclusive license with NLC, which initially allowed it to reproduce their theses on microfilm and which was revised in the early 1990s to allow for the distribution of theses in electronic format on the Internet. The license clearly indicates that authors maintain copyright ownership.

## **2. PARTNERSHIPS**

Participation in the national thesis program was and continues to be voluntary. In 1965 five universities became the Canadian Theses Service's (CTS) initial partners. Over the past forty one years participation in the program has steadily grown to the point where Theses Canada currently has partnerships with sixty universities. One of the unique aspects of the program is that there is no written agreement between each university and Theses Canada. The only criteria for joining the program is that a university must belong to the Association of Universities and Colleges of Canada. This makes for a flexible situation for universities, allowing them to stop participating in the program at any time. It also leaves Theses Canada free to develop its program for its university partners as a whole, after undertaking any necessary consultations.

## **3. NATIONAL CONSULTATION ON ETDS IN CANADA**

During the late 1990s interest in electronic theses and dissertations (ETDs) started to percolate at various Canadian universities in response to the initiatives concerning ETDs that were taking place in the United States and elsewhere. It was natural for the Canadian academic community to look to the National Library of Canada for leadership in those early days of transition from print theses. However an event that took place in the summer of 2000, which has since become known as the "Contentville" controversy, really kick started the national discussion.

In the summer of 2000 North American theses authors started to find citations for their theses on a new American website called Contentville. The website made it appear that theses could be purchased from Contentville although in reality any requests for purchases were relayed to ProQuest Information and Learning/UMI Dissertations Publishing, which had agreed to provide the citations to Contentville for the purpose of resource discovery. The Canadian media picked up the story and the Canadian Theses Service received many complaints, largely with respect to the sale of theses, from both theses authors and members of the Canadian academic community. The outcome was that citations for Canadian theses were removed from the Contentville website in September 2000. Shortly after that the website disappeared.

As a result of this crisis NLC organized a national consultation on e-theses, which took place December 4, 2000. Seventy-eight participants from across Canada took part in the consultation. Represented were deans of graduate schools, university administrators and professors, library professionals and students, as well as participants from various organizations associated with academia. The primary objective of the consultation was to discuss the national theses program in an electronic environment.

The other issue that was discussed at the consultation was that of sales of Canadian theses by NLC's contractor, UMI Dissertations Publishing. In fact many Canadian theses authors had been unaware of the fact that the license they signed with NLC allowed for the sale of their theses. Concerns were expressed by a number of graduate students and others to the effect that the agreement between NLC and UMI, allowing UMI to sell copies of theses, violated a fundamental principle to ensure freedom of access to scholarly information. To quote William Maes, University Librarian at Dalhousie University and a speaker at the consultation: "Does the current commercial situation lead us down a path that restricts access to the very things we produced? This issue is not that different from our current situation with journal publication where authors freely give up their rights in order to be published, while the very reason for publishing is thwarted by the high cost of getting that information back. ... Part of today's

discussion emanates from a belief that electronic theses will bring down costs and allow us to take back ownership of the distribution and preservation of our own works” (Maes 2000).

#### **4. THE THESES CANADA PORTAL**

Out of the consultation came the proposal for a Canadian portal for electronic theses. As per one of the recommendations a national advisory committee was established for the Canadian Theses Service. At the same time theses and systems staff at NLC got to work developing a proposal for a searchable collection of Canadian theses on AMICUS, Canada’s national online catalogue. This ambitious proposal was finished by spring 2002. It included the addition of abstracts to bibliographic records, the development of a web-based search interface for the numerous theses and dissertations in NLC’s collection and of several new search indexes specific to theses. It also included a proposal for the acquisition of theses digitized for the national program by UMI, which was a requirement of the contract in effect at the time. This proposal became the foundation for the Theses Canada Portal.

Over the course of the fall of 2002 and throughout 2003 the design and systems development for the Portal was done. On April 1, 2003, in keeping with the new direction of the national program and to match the name chosen for the Portal, the Canadian Theses Service changed its name to Theses Canada. Throughout 2003 UMI sent NLC electronic versions of all the theses it had digitized under the terms of the contract in effect between 1998 and August 2002. In all NLC received over 45,000 ETDs in PDF format from UMI.

The Theses Canada Portal was launched on January 29, 2004 at the Ontario Library Association Superconference. It provided access to NLC’s extensive collection of theses and dissertations on microform, a collection that currently numbers over 250,000. It also provided free online access to the subset of ETDs received from UMI as well as extensive information about the national program. In 2004 the theses and dissertations were indexed so that clients could do full-text searching of the contents. The Portal can be accessed at <http://www.collectionscanada.ca/thesescanada>.

#### **5. BUILDING A NATIONAL ETD PROGRAM AT LIBRARY AND ARCHIVES CANADA**

While the launch of the Theses Portal and the provision of open access to a large number of ETDs was a significant achievement, it still left the national theses program dependent on sources outside NLC to realize its mandate. NLC’s agreement with its contractor precluded the provision of immediate open access to the theses digitized on its behalf. What was needed was a way of, in the words of Bill Maes, taking back ownership of the distribution and preservation of Canadian theses and dissertations.

At its second meeting, in October 2002, the Canadian Theses Service Advisory Committee (now the Theses Canada Advisory Committee), struck a technical sub-committee composed of representatives from CTS, l’Université Laval and the University of Waterloo. The sub-committee was charged with resolving problems with respect to the transition to electronic theses in Canada and to develop the means for universities to send their ETDs directly to the NLC. This second objective was the direct result of concerns expressed at the national consultation in 2000. At the same meeting the Advisory Committee recommended that the Canadian Theses Service conduct a pilot project to acquire e-theses from l’Université Laval and the University of Waterloo. Both universities had already established ETD submission programs.

The sub-committee began its discussions in January 2003 and its work progressed concurrently with the development of the Theses Canada Portal. Its first task was to decide how the NLC would acquire ETDs from universities. The advantages of setting up a national electronic thesis program at NLC based on the Open Archives Initiative (OAI) protocol for metadata harvesting were immediately apparent. Once NLC was set up as both an OAI service provider and data provider it could harvest metadata for ETDs from universities and in turn make it available for harvesting by other organizations such as the Networked Digital Library of Theses and Dissertations (NDLTD).

In developing its harvesting program NLC faced a challenge that most institutions do not have. In order to continue to expand its collection of theses and dissertations, thus fulfilling the institution's mandate to acquire and preserve Canada's bibliographic heritage for current and future generations, NLC wanted to harvest not only theses metadata but the electronic theses and dissertations themselves.

## 6. THE PILOT PROJECT

In October 2003 the technical sub-committee met in Ottawa, along with representatives from LAC's Information Technology Branch and Standards Division, to make some decisions about formats, standards, etc., which were needed before the pilot project could begin. Programming for the LAC harvester and repository was done after the meeting and the harvester was ready by the end of 2003. An extension was written to the harvesting program to allow for the harvesting of the e-theses themselves.

The pilot project was originally intended to last for six months with an original time frame of April 1 to September 30, 2004. In fact the pilot project lasted a year (April 2004 to March 2005), allowing LAC to include two additional universities, the University of Saskatchewan and the University of Manitoba. LAC learned valuable lessons working with both of these universities.

The University of Saskatchewan developed its ETD submission program using the ETD\_db freeware from Virginia Polytechnic Institute and State University, which allows a thesis to include multiple PDF files. The harvesting program at LAC, on the other hand, had been written on the basis of harvesting only one PDF file per thesis. Participation of the University of Saskatchewan allowed LAC to identify this weakness in its program, which will be fixed when sufficient time and resources are available.

The University of Manitoba set up its ETD program using the DSpace institutional repository software that the University Library had already started to implement. This was Library and Archives Canada's first opportunity to harvest ETDs from this popular institutional repository software. It turned out to be serendipitous in that it was discovered that DSpace only supports metadata in the Dublin Core (DC) metadata standard. As a result, the programmer at the University of Manitoba developed an DC to ETD-ms (metadata standard for ETDs) crosswalk which is now available to other implementers of DSpace for ETDs.

Over the course of the pilot project LAC harvested 693 records and corresponding theses from the four participating universities. The records were converted to MARC 21 and uploaded to AMICUS on March 30, 2005. In April 2005 LAC staff reviewed the records, which they found to be good quality access records although the records do not fully comply with international standards.

Several problems with the conversion, largely related to the appearance of punctuation and mathematical/scientific symbols in the abstract note, needed to be addressed. During 2005 the problems, which are related to coding, were fixed insofar as possible and the decision was made to start harvesting other universities as they implement ETD submission programs. There are a few requirements, technical

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and general, that universities must build into their programs for LAC to be able to harvest their ETDs. Guidelines are available from Theses Canada. LAC is now working with the University of New Brunswick and the University of Victoria in order to harvest their ETDs and has plans to enhance the OAI program this fiscal year.

## **7. STATUS OF ETD INITIATIVES IN CANADA IN 2006**

In 2002 when the Canadian Theses Service started to develop the Theses Canada Portal, the University of Waterloo was the only Canadian university with an established ETD submission program. L'Université Laval had finished its pilot project and was just starting to accept ETDs. In January 2004, in order to determine the status of ETD initiatives at that time, Theses Canada conducted a short survey which revealed that out of its fifty six university partners that had not yet set up ETD submission programs twenty two, or 40%, were either interested in setting one up or were in the planning or pilot project phase. Only five universities (9%) expressed no interest in ETDs.

During the winter of 2005-2006 Theses Canada conducted a more detailed telephone survey with 47 of its university participants to update and enhance the information it obtained in the 2004 survey. Thirteen universities with very small graduate schools were not surveyed. Theses Canada now has an accurate picture of the status of ETD initiatives that are currently taking place at Canadian universities, which will help in the development of future plans.

**7.1 Survey Results.** Eight universities have ETD submission programs of which LAC is harvesting six. One cannot be harvested at this time because of technical problems and the eighth university needs to be contacted again. A ninth university, Simon Fraser, does not have an ETD submission program but is digitizing the print theses it currently approves.

The remaining 38 universities fell into one of five categories:

- Pilot projects in progress – 3
- Planning pilot projects – 4
- Proposals for approval under development – 5
- Informal discussions taking place – 11
- No current plans – 15

Those universities either planning or conducting pilot projects include some of Canada's large and prestigious universities such as l'Université du Québec à Montréal and Queen's University. The DSpace institutional repository software is proving to be a popular choice – at least 9 universities have implemented it, although one university has determined that it is not sufficient for its requirements.

## **8. AUTHOR ISSUES**

The majority of theses authors support the principle of open access to ETDs, however a small percentage of them do have concerns. These concerns invariably fall into one of two categories: damage to future publication potential and/or the possibility that their research will be plagiarized.

### **8.1 Future Publication Potential**

A small number of students are concerned that making their electronic theses and dissertations widely accessible on the Theses Canada Portal will have a negative impact on their ability to publish them commercially however, in an informal survey conducted during the fall of 2003 by the Graduate Students' Association of Canada (GSAC), Taylor and Francis, the University of Toronto Press, the University of Alberta Press and the University of British Columbia Press indicated that there would be no negative impact on their decision to publish manuscripts based upon a student's dissertation if the theses were first

made available on the Theses Canada Portal. In fact some publishers thought that the Portal initiative was a very positive step.

Theses Canada recommends that authors with concerns contact potential publishers in advance to determine whether or not prior access to their electronic theses via the Theses Canada Portal will prevent publication of all or part of their theses later on. To determine the publishing policy of various academic journals graduate students can check the Academic Journal Policy Database at [www.etsd.ubc.ca/journal](http://www.etsd.ubc.ca/journal). Universities that accept ETDs generally provide various levels of access restriction to deal with such problems.

## 8.2 Plagiarism

A small number of theses authors are concerned that exposing their research on the Internet will leave it open to plagiarism. In the *UNESCO ETD Guide*, Dr. Jean-Claude Guédon, from the Université de Montréal, points out that “by apparently giving away the results of his/her work, a scientist ensures his/her intellectual property most effectively and that the ability to compare new results to already published work makes plagiarism a very risky business”. He goes on to point out that placing theses online and maximizing their visibility offers a very efficient way to protect intellectual property and prevent plagiarism (Guédon, 2001).

## 9. ETDs BENEFIT AUTHORS

The single most significant benefit to theses authors relates to the increase in citation impact for online research of anywhere from 50 to 250%. As a reflection of the degree of uptake of research results by other researchers this can contribute to rewards from universities through employment, increased salary and promotion and rewards from research-funders (Harnad, 2005). Publication of electronic theses and dissertations results in additional benefits such as:

- free publicity for post-graduate level research – the authors of electronic theses become much more widely known and as a result their reputations and status are enhanced;
- easy worldwide access to their theses for colleagues and collaborators;
- easy worldwide access to their theses for job and grant applications;
- the ability to include multimedia in ETDs;
- a raised profile for their research institutions; and,
- savings from not having to print, copy and bind paper theses.

## 10. CONCLUSION

In the next two to three years it's expected that many of the universities currently in the planning or pilot stages of their ETD initiatives will put ETD submission programs in place. This will be a busy period for Theses Canada as it starts to harvest theses and metadata from many of its partners while at the same time maintaining the traditional program it provides through ProQuest Information and Learning. However in three years the development of a national electronic theses program at Library and Archives Canada will be well on its way.

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## **CURRICULUM VITAE**

Sharon Reeves is Manager of Theses Canada at Library and Archives Canada . She began her career at the National Library of Canada in 1980 working in the Collections Development Branch. From 1985 until 2001 she worked in the Acquisitions and Bibliographic Services Branch (ABSB), first as a cataloguer and then as a manager. After a short stint as ABSB Planning Coordinator she took over as Manager of the Canadian Theses Service (now Theses Canada) in June 2002. Since coming to Theses Canada her focus has been on the development of the Theses Canada Portal, which was launched in January 2004, and on developing the capacity to build a collection of electronic theses at LAC.

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